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EXAMINER	
WHITTINGTON, KENNETH	
ART UNIT	PAPER NUMBER
2862	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/567,997	STEINICH, KLAUS MANFRED	
	Examiner	Art Unit	
	KENNETH J. WHITTINGTON	2862	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20 and 22-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20 and 22-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 February 2006* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *2/10/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

Applicant is reminded of the proper language and format for an abstract of the disclosure. A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

The abstract of the disclosure is objected to because in lines 1-2, it contains a sentence that can be implied, i.e., "The invention concerns…". Correction is required. See MPEP § 608.01(b).

The abstract is also objected to because lines 1-14 refer to the purported merits of the invention rather than describe the invention concisely. Correction is required. See MPEP § 608.01(b).

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the use of a toroid coil as recited in claims 23-25 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required

corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claim 16 is objected to because of the following informalities: "the is frontal opening" does not make sense. It appears this should be "the frontal opening".

Claim 19 is objected to because of the following informalities: "allo" should be "alloy".

Claim 22 is objected to because of the following informalities: "said waveguide" lacks antecedent basis. This claim should depend from claim 11 or 14.

Appropriate correction is required in each instance.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422

F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1 and 8 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 13 of U.S. Patent No. 7329129. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the instant application are merely broader recitations of the same subject matter.

Claims 1 and 5-8 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 13 of copending Application No. 11/047430. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the instant application are merely broader recitations of the same subject matter.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 25 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The recitation of "its contact layer" is unclear from the rest of the language used in the claim. It is not clear which portion of the recited features corresponds to "its". Furthermore, contact layer is not defined anywhere in the claims, i.e., what is the layer and what is being contacted. Thus, it is unclear which components are equivalent to the "its" part of the claim it is also unclear the features of this contact layer, both of which render the claim indefinite as to scope.

For purposes of examination only, this claim will be interpreted as definite, i.e., without the indefinite phrase beginning with "its contact layer".

It is noted that upon review of the specification, this contact layer is the line of contact between the two half shells making up the flux guide. Amending this claim such that "a contact layer between the half shells of the flux guide runs diagonally to the longitudinal axis of the toroid coil and the flux guide unit" would overcome this 112 rejection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-10, 12, 20, 22 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Begin (US5680041).

Regarding claim 1, Begin discloses a position sensor according to the transit time principle of a mechanical-elastic wave, said sensor comprising:

a waveguide made of electrically conductive material (See Begin FIG. 1, item 16),

a detector coil in a detector range being arranged coaxially on the waveguide (See FIG. 1, item 36);

a position magnet moveable along the waveguide (See FIG. 1, item 58); and

a flux guide unit being assigned to said detector coil (See FIG. 1, item 40, note housing 40 is made from steel).

Regarding claim 2, Begin discloses said waveguide possesses a solid cross-section (See FIG. 1, item 16 and disclosure related thereto).

Regarding claim 3, Begin discloses the waveguide has a solid cross section through an entire waveguide measurement range (See FIG. 1, item 16).

Regarding claim 4, Begin discloses said detector coil is also a part of a detector arrangement just like a detector circuit (See FIGS. 1 and 3, note circuits shown).

Regarding claim 5, Begin discloses said flux guide unit of the detector coil is assigned so that it simultaneously shields the detector coil against undesired external magnetic fields (See FIG. 1, item 40, note since steel is magnetic, it would shield internal components from external fields).

Regarding claim 6, Begin discloses a magnetic flux path of the magnetic flux enabled by the flux guide unit encloses the windings of the coil at least once including the waveguide in the flux path (See FIG. 1, items 40 and 36).

Regarding claim 7, Begin discloses said magnetic flux path enabled by the flux guide unit surrounds the entire detector coil (See FIG. 1, note items 40 and 36).

Regarding claim 8, Begin discloses a position sensor according to the transit time principle of a mechanical-elastic wave, said sensor comprising: a waveguide;

a detector coil arranged on the waveguide (See FIG. 1, item 36);

a position magnet, movable along the waveguide (See FIG. 1, item 58);

an electrical return at least in the axial range of the detector coil of the return is coaxially arranged externally around the detector coil (See FIG. 1, item 40).

Regarding claim 9, Begin discloses said electrical return consists of electrically conductive and also magnetic shielding material with a permeability of $\mu>1$ (See FIG. 1, item 40, note steel has these properties).

Regarding claim 10, Begin discloses said electrical return exhibits a completely enclosed cross-section (See FIG. 1, note 40 encloses detection assembly).

Regarding claim 12, Begin discloses the detector coil is constructed as a self-supporting coil (See FIG. 1, item 36).

Regarding claim 20, Begin discloses a direct current is flowed through said waveguide (See col. 4, lines 24-48).

Regarding claim 22, Begin discloses an axial direction of said detector coil corresponds with a longitudinal direction of said waveguide (See FIG. 1, note items 36 and 16).

Regarding claim 26, Begin discloses the magnetic flux path enabled by the flux guide unit surrounds the detector coil in at least one axial layer surrounding said detector coil (See FIG. 1, items 40 and 36).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 11, 13-17, 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Begin in view of Roters (US2511178). Regarding claims 11, 13, 14, 27 and 28, Begin teaches the features of the magnetostrictive waveguide assembly as noted above, but not the details of the coil about the waveguide. Rotors teaches a coil for measuring waves traveling along a magnetostrictive waveguide comprising a coil wherein a flux guide unit coaxially and completely encloses the detector coil along an axial layer of the detector coil and has an opening for electrical conductors (See Roters FIGS. 3a and 3b, note coil 41 and flux guide unit items 46, 47, 48 and 59, note also openings through item 46). It would have been obvious at the time the invention was made to incorporate the flux guide unit of Roters in the apparatus of Begin. One having ordinary skill in the art would do so to isolate the coil such that in absence of any stress on the magnetostrictive wire, no signal is induced in the Coil (See Roters col. 5, line 61 to col. 6, line 14).

Regarding claim 15, this combination teaches said flux guide unit is primarily cylindrically shell-shaped with two opposing openings in the enclosed front side for entry and exit of said waveguide and a conductor opening for the passage of the electrical conductor for the detector coil, in which the

conductor opening is found in the cylindrical surface area of the flux guide unit (See Roters FIGS. 3a and 3b, see items 46-49).

Regarding claim 16, this combination teaches said cylindrical flux guide unit consists of a cup-shaped body with an open front side and a suitable cover on the is frontal opening (See Roters FIGS. 3a and 3b, see items 46-49).

Regarding claim 17, this combination teaches the cylindrical housing consists of two half-cylindrical shells (See Roters FIGS. 3a and 3b, see items 46-49).

Claims 18, 19, 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Begin in view of Roters as applied to claim 14 above, and further in view of Redlich (US4864232). Regarding these claims, the noted combination teaches using a high permeability material for the flux guide (See Roters col. 5, line 61 to col. 6, line 14), but not the particular material or permeability ranges for the flux guide. Redlich teaches a flux guide for a coil comprising ferrite (See Redlich FIG. 1, note coil 2 with ferrite flux guide 5). It would have been obvious at the time the invention was made to use ferrite as the flux guide in the noted combination. One having ordinary skill in the art would do so because ferrite is

such a highly permeable material as required in Roters. Regarding the permeability limitations of the claims, it is noted that ferrite has these recited properties.

Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Begin in view of Turner (US2713263). Regarding claim 23, Begin teaches using a coil wrapped about the magnetostrictive wire to create the sonic/compression wave in the magnetostrictive wire, but not a toroid coil. Turner teaches a method for creating a compression/sonic wave in an elongated magnetostrictive tube to measure distances to certain features about the tube (See Turner FIG. 1, item 19). It would have been obvious at the time the invention was made to incorporate the toroid coil of Turner into the apparatus of Begin. One having ordinary skill in the art would do so because either is equally usable in the art to transmit and receive compression/vibration waves in magnetostrictive materials (See Begin col. 4, lines 24-48 and Turner col. 3, lines 28-48).

Regarding claim 24, this combination teaches the axial length of the toroid coil that at least corresponds to a diameter of its free central opening (See Turner FIG. 1, item 19, note its free central opening and its length).

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Begin in view of Turner as applied to claim 23 above, and further in view of Roters. Begin in view of Turner teaches the features of claim 23 as noted above, but not a flux guide. Roters teaches a coil that is enclosed by said flux guide unit which has a somewhat cylindrical form and consists of two half-shells, which are enclosed by a front side in each case, except for a central passage opening, analogous to the passage opening of the coil (See Roters FIGS. 3a and 3b, note coil 41 and flux guide unit items 46, 47, 48 and 59, note also openings through item 46). It would have been obvious at the time the invention was made to incorporate the flux guide unit of Roters in the apparatus of Begin in view of Turner to surround the toroid coil. One having ordinary skill in the art would do so to isolate the coil such that in absence of any stress on the magnetostrictive wire, no signal is induced in the Coil (See Roters col. 5, line 61 to col. 6, line 14).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KENNETH J. WHITTINGTON whose telephone number is (571)272-2264. The

examiner can normally be reached on Monday-Friday, 7:30am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Assouad can be reached on (571) 272-2210. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

/Kenneth J Whittington/
Primary Examiner, Art Unit 2862